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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,472	01/25/2001	Atsushi Maeda	500.39540X00	3957

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EXAMINER	
CHANKONG, DOHM	

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,472	MAEDA, ATSUSHI	
	Examiner	Art Unit	
	Dohm Chankong	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1> Applicant's amendment and remarks have been received. Claims 4-7 have been added. Claim 1 has been amended. Claims 1-7 are presented for further examination.

Response to Arguments

2> Applicant's arguments with respect to claims 1-2 have been considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendment.

3> Applicant's arguments, see pages 7-12, filed 8.26.2004, with respect to the rejection(s)of claim 3 under 35 U.S.C § 103(a) have been fully considered and are persuasive.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4> Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1-2 are rejected for lacking proper antecedent basis: "each apparatus". It is not immediately clear to what apparatus is being referred;

b. Claims 4 and 7 are rejected for lacking proper antecedent basis: "the self apparatus";

c. Claims 1-7 are rejected for vague claim language that renders the claims indefinite.

i. Claim 1 is rejected for unclear claim language and lacking proper antecedent basis. Claim 1 discloses "notifying the source address of the terminal deleted from the terminal address table of said one apparatus to the selected other apparatus". It is not clear who or what is being notified. Therefore, "the notified other apparatus" apparatus lacks proper antecedent basis because of the lack of clarity present in the claim language.

ii. Claim 1 is rejected for unclear claim language; Claim 1 discloses "said each apparatus relaying data having a source address stored in its associated table". Because the limitation already mentioned storing "source addresses of the terminals", it is unclear what source address is being referenced (a new source address, a source address of one of the terminals).

iii. Claim 4 discloses "in each processing apparatus, registering source addresses of the terminals". Subsequently, upon determining a load of the apparatus and other apparatus and selecting another apparatus, the address (or entry) is moved to the other apparatus that has a smaller load. It is not clear why the entry needs to be passed to the other apparatus if the apparatus already has the source address of each terminal in the network. In other words, as the claim is currently written, the claim discloses that the apparatus have registered addresses of all the terminals within a table; therefore, the limitation that passes or stores the selected source address to the new apparatus would

seem an unnecessary step since the apparatus already has the source addresses of all terminals in the network. This unclear construction is also found in claims 1, 3 and 7 and these claims are rejected for similar reasons.

Claim Rejections - 35 USC § 103

5> The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6> Claims 1 and 2 are rejected under 35 U.S.C § 103(a) as being unpatentable over Wils et al, U.S Patent No. 6.397.260 ["Wils"], in view of Allon et al, U.S Patent No. 5.539.883 ["Allon"].

7> As to claim 1, Wils discloses a load balancing method for a first network and a second network, said second network having a plurality of segments each connecting terminals, for relaying data between the first and second networks, said method comprising the steps of:

storing source addresses of the terminals for relaying data in the first network, in a terminal address table provided in each apparatus relaying data between the terminals and the first network, said each apparatus relaying data having a source address stored in its associated table [Figure 4 | abstract | column 4 «lines 1-17» | column 6 «line 64» to column 7 «line 7»];

measuring a load of data to be relayed in the first network and exchanging load data between a plurality of the apparatus [column 2 «lines 29-36» | column 6 «lines 8-20»].

Wils does not disclose load balancing by transfer of an address to another router.

8> Allon teaches that is well known in the art to perform load balancing among computer nodes, when a node is overloaded, by transferring some of its task to another node [transferring implicitly means move and delete from an overloaded node] [abstract | column 5 «lines 22-61»]. While Allon does not explicitly mention moving and deleting terminal addresses, Wils teaches maintaining non-overlapping address subspaces for the addresses of the nodes in his network [abstract | column 6 «line 64» to column 7 «line 7»]. Hence, it is apparent that the combination of Allon and Wils would suggest to delete the terminal address after it is transferred to another router; the address subspace would overlap otherwise.

9> As to claim 2, Wils does not disclose a load balancing method further comprising:

when a failure at the other apparatus is detected, judging whether the load of the one apparatus is smallest or relatively small; and

if the load of the one apparatus is smallest or relatively small, inheriting an entry of said other apparatus.

10> Allon discloses a load balancing method further comprising:

when a failure at the other apparatus is detected, judging whether the load of the one

apparatus is smallest or relatively small [abstract | column 9 «line 29» to column 10 «line 25»]; and

if the load of the one apparatus is smallest or relatively small, inheriting an entry of said other apparatus [abstract | column 9 «line 29» to column 10 «line 25»].

It would have been obvious to one of ordinary skill in the art to incorporate Allon's load balancing techniques into Wils' load balancing system to insure that the other router is able to accept the extra load before transferring the load to the router.

11> As to claims 4-6, as they do not teach or further define over the limitations of claims 1-2, they are similarly rejected for the same reasons set forth for claims 1 and 2, supra.

12> Claims 3 and 7 are rejected under 35 U.S.C § 103(a) as being unpatentable over Allon, in view of Wils.

13> As to claim 3, Allon discloses a load balancing apparatus comprising:

a measuring unit for measuring a load of data to be relayed in a network [column 4 «lines 16-31»];

a statistical processing unit for exchanging load data measured by said measuring unit between the apparatus and other apparatus [column 9 «lines 56-63»];

a data recording unit for recording the load data to be relayed in the network, respectively of each of the other apparatus and each terminal and received from statistical processing unit [column 4 «lines 16-31» | column 9 «lines 44-55»]; and

a condition setting unit for judging from the load data recorded in said recording unit whether the load of the apparatus is largest or relatively large, and if the load is largest or relatively large, determining an entry is passed to the other apparatus having a smallest or relatively small load [claim 2].

Allon does not explicitly disclose a terminal table.

14> Wils teaches it is well known to utilize a terminal table in load balancing systems, the terminal address recording an entry as a source address of each terminal for relaying data in the network [column 6 «line 65» to column 7 «line 7»]. While Allon does not explicitly mention moving and deleting terminal addresses, Wils teaches maintaining non-overlapping address subspaces for the addresses of the nodes in his network [abstract]. Hence, it is apparent that the combination of Allon and Wils would suggest to delete the terminal address after it is transferred to another router; the address subspace would overlap otherwise.

15> As to claim 7, Allon discloses a load-balance processing apparatus for relaying a packet between a first and a second network, said second network having a plurality of segments each connecting terminals, said apparatus comprising:

a first traffic measuring unit for measuring the amount of traffic between the self apparatus and said first network for each terminal [claim 1];

a second traffic measuring unit for measuring the amount of traffic between the self apparatus and said segment for each terminal [claim 1];

a statistical processing unit for exchanging the traffic amounts measured by said first traffic measuring unit and said second traffic measuring unit, with those of another processing apparatus [column 9 «lines 56-63»]; and

a recording unit for recording said traffic amounts of the self apparatus and the exchanged traffic amounts [column 4 «lines 16-31» | column 9 «lines 44-55»].

Allon does not explicitly disclose a terminal table or means for replaying a packet to be transmitted, said packet having a source address registered in said terminal address table.

16› Wils teaches it is well known to utilize a terminal table in load balancing systems, the terminal address recording an entry as a source address of each terminal for relaying data in the network [column 6 «line 65» to column 7 «line 7»]. While Allon does not explicitly mention moving and deleting terminal addresses, Wils teaches maintaining non-overlapping address subspaces for the addresses of the nodes in his network [abstract]. Hence, it is apparent that the combination of Allon and Wils would suggest to delete the terminal address after it is transferred to another router; the address subspace would overlap otherwise.

Wils also discloses means for replaying a packet to be transmitted, said packet having a source address registered in said terminal address table [column 4 «lines 18-31»]. It would have been obvious to one of ordinary skill in the art to incorporate Wils' source address into Allon's packet to enable the nodes to identify the router with which the node is associated to insure that the packet is processed properly.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3942. The examiner can normally be reached on 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC

Dung C. Dinh
Primary Examiner